



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,342	10/06/2001	Eric C. Miller	90747-4600	4511

28765 7590 03/30/2007  
WINSTON & STRAWN LLP  
PATENT DEPARTMENT  
1700 K STREET, N.W.  
WASHINGTON, DC 20006

EXAMINER
----------

TRAN, CON P

ART UNIT	PAPER NUMBER
----------	--------------

2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/972,342	MILLER ET AL.	
	Examiner	Art Unit	
	Con P. Tran	2615	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/17/07 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 28-29, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sygnator U.S. Patent 3,807,526 in view of McManigal U.S. Patent 5,327,178.

Regarding **claim 28**, Sygnator teaches ear protector having an earstem for an eyeglasses (see Figs. 3, 4, and respective portions of the specification; col. 1, lines 24-39) comprising:

a temple portion (10, Figs. 3, 4)

a pad support portion (arm 14a, Figs. 3, 4) for supporting a pad mount (outer part of pad 20), the pad support being adapted and configured so that the position of the pad mount (part of pad 20) can be adjusted (i.e., for adjustment transversely and longitudinally) by a wearer along two axes (two branches of end portion 15a which is divided by slot 18; col. 2, lines 41-59) to be over at least a portion of the wearer's concha (see Figs. 3, 4; col. 2, lines 1-17), wherein the two axes (15a) are inclined with respect to each other and parallel to the wearer's external ear (see Figs. 3,4).

Sygnator does not explicitly disclose the ear protector being capable used in a communication system; an earpiece portion, wherein the joined temple, speaker support, and earpiece portions are adapted and configured to support the speaker mount away from a wearer's outer ear with a gap sufficient to permit the wearer to hear environmental sounds without significant obstruction. However, modification of an overlying ear protector in order to operate as an earpiece which opens to ambient air is well known in the audio communication art.

McManigal discloses an improved loudspeaker system, and associated equipment comprising an earpiece portion (10, Figs. 1a, 1b), wherein the joined temple (ear stems 13), speaker support (elbow 12), and earpiece portions (10, Figs. 1a, 1b )

are adapted and configured to support the speaker mount away from a wearer's outer ear with a gap (i.e., never touch the ear) sufficient to permit the wearer to hear environmental sounds without significant obstruction (i.e., surrounding environmental sounds are easily heard; see Figs. 1a, 1b; col. 4, lines 12-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear protector of Sygnator to include an improved loudspeaker system of McManigal with the expectation of the earstem for eyeglass used in a communication system comprising an earpiece portion as claimed for purpose of allowing environmental sound to be heard, as suggested by McManigal in column 3, lines 9-10.

Regarding **claim 29**, Sygnator in view of McManigal teaches the earstem of claim 28. Sygnator, as modified, further teaches wherein the speaker support portion further comprises:

a "U"-shaped loop in the earstem (see 14a, Fig. 4), the "U"-shaped loop slidably retaining the speaker mount between the "legs" of the loop for motion along the axis of the loop (two branches of end portion 15a which is divided by slot 18, Fig. 4; col. 2, lines 41-59),

wherein the "U"-shaped loop is inclined downward and rearward over a wearer's ear to permit motion of the speaker mount over at least a portion of the wearer's concha (see Figs. 3, 4; col. 2, lines 41-58).

Regarding **claim 32**, Sygnator in view of McManigal teaches the earstem of claim 28. Sygnator, as modified, further teaches wherein the speaker support portion comprises:

a linear member on which the speaker mount is slidably retained for motion along the linear member (15a, Fig. 4)

wherein the linear member projects downward and rearward from the earstem to over a wearer's ear to permit motion of the speaker mount over at least a portion of the wearer's concha (see Figs. 3, 4; col. 2, lines 41-58).

4. **Claims 30-31, 33-35, 37 and 39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sygnator U.S. Patent 3,807,526 in view of McManigal U.S. Patent 5,327,178, and further in view of Green et al. U.S. Patent 6,176,576 (hereinafter, "Green").

Regarding **claim 30**, Sygnator in view of McManigal teaches the earstem of claim 29. However, Sygnator in view of McManigal does not explicitly disclose a rotatably mounted speaker with an axis of rotation eccentric with respect to the speaker mount, wherein rotation of the rotatably mounted speaker causes the speaker to move in an approximately vertical direction.

Green teaches eyewear including variations of earpiece and earplug (see Fig. 42-48; col. 21, lines 50-57) without plugging the ear canal (col. 22, lines 12-19), wherein the speaker mount further comprises:

a rotatably mounted speaker with an axis of rotation eccentric with respect to the speaker mount (i.e., off-axis, see Figs 59-61; col. 23, lines 10-25),

wherein rotation of the rotatably mounted speaker causes the speaker to move in an approximately vertical direction (see Figs. 59-61; col. 23, lines 10-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the eyewear having the earpieces taught by Green with the ear protector having the earstem for an eyeglasses of Sygnator in view of McManigal to obtain the earstem as claimed in order to allow for comfort adjustment, as suggested by Green in column 24, lines 2-3.

Regarding **claim 31**, Sygnator in view of McManigal and further in view of Green teaches the earstem of claim 30. Green, as modified, further teaches wherein the speaker is arranged and positioned over the intertragic notch of the wearer's ear (i.e., fit within concha; see Figs. 61, 64, 65; col. 25, lines 31-45).

Regarding **claim 33**, Sygnator in view of McManigal teaches the earstem of claim 28. However, Sygnator in view of McManigal does not explicitly disclose further comprising a microphone mount.

Green teaches an eyewear that comprises a microphone mount (at temple portion 2.88, see Fig. 18; col. 12, lines 15-21; col. 18, lines, 19-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the eyewear having the microphone mount taught by

Art Unit: 2615

Green with the ear protector of Sygnator in view of McManigal to obtain the microphone mount as claimed for purpose of providing two-way communication for the wearer, as suggested by Green in column 3, lines 6-7.

Regarding **claim 34**, Sygnator in view of McManigal, and further in view of Green teaches the earstem of claim 33. Green, as modified, teaches wherein the microphone mount is carried by the temporal portion (88, 2.24, 3.44, Figs. 5, 11, 18; col. 12, lines 15-21; col. 15, lines 48-51; col. 18, lines, 19-30).

Regarding **claim 35**, Sygnator in view of McManigal, and further in view of Green teaches the earstem of claim 33. Green, as modified, teaches wherein the microphone mount comprises:

a cavity (recess 2.248, Fig. 17, 18) within the earstem for retaining a microphone (2.220 Fig. 17; retract, Fig. 18; col. 18, lines, 19-30), and

a first port inclined downward and forward for permitting entry of a wearer's voice into the cavity (opening for receiving voice; see Figs. 17, 18).

Regarding **claims 37 and 39**, Claims 37 and 39 are also met as above discussion of claim 28. However, Sygnator in view of McManigal does not explicitly disclose a microphone carried by the earstem, a wearer unit operably coupled to the speaker and the microphone.



Art Unit: 2615

Green further discloses wearer unit such as cellular telephone coupled to the speaker and the microphone via junction connector 2.234, Fig. 16; col. 17, line 58 – col. 18, line 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the eyewear having the microphone mount taught by Green with the ear protector of Sygnator in view of McManigal to obtain the eyeglass communication as claimed for purpose of providing two-way communication for the wearer, as suggested by Green in column 3, lines 6-7.

5. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sygnator U.S. Patent 3,807,526 in view of McManigal U.S. Patent 5,327,178 in view of Green et al. U.S. Patent 6,176,576 (hereinafter, "Green"), and further in view of Cragg et al. U.S. Patent 3,781,492 (hereinafter, "Cragg").

Regarding **claim 36**, Sygnator teaches ear protector having an earstem for eyeglasses used in a communication system (see Figs. 3, 4, and respective portions of the specification; col. 1, lines 24-39) comprising:

- a temple portion (10, Figs. 3, 4);

- a pad support portion (arm 14a, Figs. 3, 4) for supporting a pad mount (outer part of pad 20), the pad support being adapted and configured so that the position of the pad mount (part of pad 20) can be adjusted (i.e., for adjustment transversely and longitudinally) by a wearer along two axes (two branches of end

Art Unit: 2615

portion 15a which is divided by slot 18; col. 2, lines 41-59) to be over at least a portion of the wearer's concha (see Figs. 3, 4; col. 2, lines 1-17), wherein the two axes (15a) are inclined with respect to each other and parallel to the wearer's external ear (see Figs. 3,4).

Sygnator does not explicitly disclose the ear protector being capable used in a communication system; an earpiece portion, wherein the joined temple, speaker support, and earpiece portions are adapted and configured to support the speaker mount away from a wearer's outer ear with a gap sufficient to permit the wearer to hear environmental sounds without significant obstruction. However, modification of an overlying ear protector in order to operate as an earpiece which opens to ambient air is well known in the audio communication art.

McManigal discloses an improved loudspeaker system, and associated equipment comprising an earpiece portion (10, Figs. 1a, 1b), wherein the joined temple (ear stems 13), speaker support (elbow 12), and earpiece portions (10, Figs. 1a, 1b ) are adapted and configured to support the speaker mount away from a wearer's outer ear with a gap (i.e., never touch the ear) sufficient to permit the wearer to hear environmental sounds without significant obstruction (i.e., surrounding environmental sounds are easily heard; see Figs. 1a, 1b; col. 4, lines 12-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ear protector of Sygnator to include an improved loudspeaker system of McManigal with the expectation of the earstem for eyeglass used in a communication system comprising an earpiece portion as claimed for purpose

Art Unit: 2615

of allowing environmental sound to be heard, as suggested by McManigal in column 3, lines 9-10.

However, Sygnator in view of McManigal does not explicitly disclose further comprising a microphone mount that is carried by the temporal portion, where the microphone mount further comprises: a cavity within the earstem for retaining a microphone, and a first port inclined downward and forward for permitting entry of a wearer's voice into the cavity.

Green teaches an eyewear that comprises:

a microphone mount that is carried by the temporal portion (at temple portion 2.88, see Fig. 18; col. 12, lines 15-21; col. 18, lines, 19-30);

a cavity (recess 2.248, Fig. 17, 18) within the earstem for retaining a microphone (2.220 Fig. 17; retract, Fig. 18; col. 18, lines, 19-30), and

a first port inclined downward and forward for permitting entry of a wearer's voice into the cavity (opening for receiving voice; see Figs. 17, 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the eyewear having the microphone mount taught by Green with the ear protector of Sygnator in view of McManigal to obtain the microphone mount as claimed for purpose of providing two-way communication for the wearer, as suggested by Green in column 3, lines 6-7.

However, Sygnator in view of McManigal, and further in view of Green does not explicitly disclose wherein the microphone mount further comprises:

a second port inclined upward and rearward for permitting entry of environmental sounds into the cavity, and

a gradient microphone retained within the cavity.

Cragg discloses a headset having gradient microphone (13, Figs. 1, 7) in which two sets of apertures (325, 316; Fig. 1) responsive to the pressure gradient between the two sets of apertures and the transducer element (33, Fig. 7) is driven by the pressure difference between its two faces (col. 5, lines 45-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the gradient microphone taught by Cragg with the communication system of Sygnator, McManigal, and Green in combination so that to obtain a gradient microphone and a second port as claimed for purpose of providing a smooth response over the whole speech band, as suggested by Cragg in column 5, lines 64-65.

6. **Claims 38, and 40-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sygnator U.S. Patent 3,807,526 in view of McManigal U.S. Patent 5,327,178, and further in view of Spitzer U.S. Patent 6,091,546 (cited by Applicants).

Regarding **claim 38**, Sygnator in view of McManigal teaches the earstem of claim 37. However, Sygnator in view of McManigal does not explicitly disclose wherein the wearer unit comprises a personal digital assistant.

Spitzer further teaches wherein the wearer unit comprises a personal digital assistant (Palm pilot; col. 4, lines 38-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the personal digital assistant taught by Spitzer with the communication system of Sygnator in view of McManigal such that the wearer unit comprises a personal digital assistant for purpose of allowing electronically relayed information, as suggested by Spitzer in column 3, lines 17-18.

Regarding **claim 40**, Spitzer, as modified, further teaches wherein the wearer unit comprises a personal wireless unit for locally and wirelessly relaying signals to and from the speaker and microphone (RF, col. 10, lines 36-48).

Regarding **claim 41**, Claim 41 is also met in view of above discussion of claims 37 and 40 since Spitzer, as modified, further discloses video conferencing system with local RF (see col. 11, lines 42-57)

Regarding **claim 42**, Spitzer, as modified, further discloses:

an interface to an equipment (video conferencing system; see col. 11, lines 42-57), and

a programmable device (voice recognition, col. 10, lines 5-16) executing one or more processes that translates between voice signals exchanged with at least one of the eyeglasses and equipment signals exchanged with an equipment through the

equipment interface, wherein information can be exchanged between a wearer of the eyeglasses and an interfaced equipment (for video conferencing system; see col. 11, lines 42-57).

**Claim 43** is also met (see Spitzer, video conferencing system; see col. 11, lines 42-57).

**Claim 44** is also met (for surgeon; see Spitzer, col. 10, lines 36-48).

**Claim 45** is also met (hospital intensive care units; see Spitzer, col. 11, 64-67).

### ***Response to Arguments***

7. Applicants' arguments filed on January 17, 2007 have been fully considered but they are not persuasive.

8. Applicant asserts on page 8, regarding claim 28:

"Nowhere does Sygnator describe or suggest that the ear protector can or does act as a speaker or that the configuration permits the wearer to hear environmental sounds without significant obstruction. Indeed, the present invention is completely contradictory to the intended goal of Sygnator."

Examiner respectfully disagrees. Sygnator discloses in column 2, lines 17-22

"Even with this rather loose overlying disposition of the end portion 15, it has been

Art Unit: 2615

found that a substantial amount of high decibel sound is prevented from reaching the inner ear, thus reducing the possibility of injury thereto. It is perhaps comparable to placing one's fingers loosely over the concha area between the tragus and antitragus, and this sound barrier effect can be increased by finger pressure on the tragus itself forcing it into the concha area to substantially close the auditory canal opening."

Sygnator intended to reduce to tolerance levels the high decibel sounds (col. 1, lines 27-30). In other words, Sygnator only concern to high decibel sounds.

Sygnator further teaches bendable arm to adjust pressure on the ear, i.e., moving inward or outward.

9. Applicant further asserts on pages 8-9, regarding claim 28:

"There is absolutely no motivation in McManigal that would suggest that it should be combined with Syngator. . . . McManigal teaches away from Syngator rather than suggesting a modification of Syngator . . . ."

Examiner respectfully disagrees. As the rejection discussed above, the motivation is from McManigal, and please see above response regarding teaching away, i.e., Syngator does not expressly disclose to eliminate other environmental sounds.

10. Regarding Applicant's argument that "the microphone mount is carried by the temporal portion" analogy of claim 34 is incorrect. Examiner respectfully disagrees, Green expressly discloses "the optional and retractable microphone boom, hereinafter

Art Unit: 2615

described, need be included on only one of the temples", see col. 15, lines 48-50. In addition, a rear temporal portion is a part of the (whole) temple portion.

11. Regarding Applicant's argument that the analogy of claim 35 is entirely inappropriate, and the advantage of the invention that is it avoids using a microphone boom. Examiner respectfully disagrees, the claim does not exclude the microphone in the extended position.

12. Regarding Applicant's argument of claim 36, one of ordinary skill in the art needs not to follow the Applicant's suggestion. In addition, when the boom retracted, the cavity (recess 2.220, Fig. 17) that retains the microphone is in the earstem (also see Fig. 11).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Con P. Tran whose telephone number is (571) 272-7532. The examiner can normally be reached on M - F (8:30 AM - 5:00 PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Vivian C. Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status



Art Unit: 2615

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cpt *CPJ*  
March 21, 2007

  
VIVIAN CHIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600